

Abstract

An insulating material and the method of applying the insulating material to products and systems. The material, method and system may be applied to tubulars used in deep water projects. The insulating material is composed of ceramic particles, epoxy and an acrylate monomer that is a precursor to an acrylic resin, and additives. Equal volumes of a epoxy component mixtures and a curing agent component mixture when heated and mixed together create a liquid insulating material that can be applied to the outer surface of pipe involving a repetitive series of steps controlled by an operator at a main control panel. Pipe unrolled from a pipe reel is straightened and heated. In a heated retort, liquid insulating material is applied to the surface of pipe and cured to the final insulation coating. The final coated pipe can be replaced on the reel for shipment to the job site. Within the deep sea environment the hardness of the insulating material can withstand the compressive pressure, water absorption and corrosion; and the insulating properties avoid the affects of near-freezing water temperatures. A curing agent in the formulation provides flexibility to the insulation. In the underwater environment, current movements can damage and breech the connections of the systems. Flexibility in the insulation will protect the systems from the currents and ensure integrity of the systems especially critical in piping systems.